REMARKS/ARGUMENTS

In response to the Office Action dated January 29, 2004, please consider the following remarks.

In the Office Action issued January 29, 2004, claims 1, 13-19, 21, 23-31, 43-49, 51, 53-61, 73-79, 81, 83-91, 103-109, 111, and 113-120 were rejected under 35 U.S.C. §102(e) as being anticipated by Vanderveldt et al., U.S. Patent No. 6,266,668 ("Vanderveldt"). Claims 20, 22, 50, 52, 80, 82, 110, and 112 were rejected under 35 U.S.C. §103(a) as being unpatentable over Vanderveldt. Claims 2-12, 32-42, 62-72, and 92-102 were objected to as being dependent upon a rejected base claim, but were indicated as being allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 1, 3-31, 33-61, 63-91, and 93-120 are now pending in this application. Claims 1, 31, 61, and 91 have been amended to include the subject matter of claims 2, 32, 62, and 92, respectively. Claims 2, 32, 62, and 92 have accordingly been cancelled. Claims 3, 33, 63, and 93 have been amended to correct dependencies. Claims 13, 23, 43, 53, 73, 83, 103, and 113 have also been amended.

Claims 1, 3-12, 31, 33-42, 61, 63-72, 91, and 93-102 include the subject matter of claims 2-12, 32-42, 62-72, and 92-102 and should now be in form for allowance.

The present invention, according to claims 13-19, 21, 23-30, 43-49, 51, 53-60, 73-79, 81, 83-90, 103-109, 111, and 113-120 is not anticipated by, nor obvious in view of, the reference relied upon in the Office Action, as this prior art reference does not disclose or suggest the claimed features of the present invention.

The Applicant respectfully submits that the present invention according to claims 13, 43, 73, and 103 is not anticipated by Vanderveldt.

Vanderveldt discloses a method and system for dynamically searching databases in response to a query. The method includes the steps of first creating a search-specific profile. This search-specific profile is then input into a data-mining search engine. The data-mining search engine will mine the search-specific profile to determine topic of interests. These topics of interest are output to at least one search tool. These search tools match the topics of interest to at least one destination data site wherein the destination data sites are evaluated to determine if relevant information is present in the destination data site. Relevant information is filtered and presented to the user making the inquiry.

By contrast, the present invention is directed to a method, system, and computer program product for allocating data mining processing tasks that does not use complex internal schemes, yet results in better performance than is possible with general-purpose operating system based schemes.

Claim 13 recites determining that the computer system is overloaded due to tasks being executed by the computer system and causing degradation in performance of processing at least one task. Vanderveldt discloses, at col. 8, lines 25-27: "[i]f the training algorithm reaches a new local minima, we want the training algorithm to start over again." The local minima disclosed by Vanderveldt refers to a local minimum in the error surface of the mathematical model of the training algorithm. Thus, Vanderveldt discloses a reduction in the training rate of the algorithm due to natural concavity or a flat spot in a local minimum of the error surface. (Col. 6, lines 5-18) Vanderveldt does not disclose or

suggest that the computer system on which the algorithm is executing is overloaded due to tasks being executed by the computer system and causing degradation in performance of processing at least one task. Rather, Vanderveldt discloses that the training algorithm is being processed just fine by the computer system, but that the algorithm itself has reached a point, due to its mathematical model of the error surface, where it is no longer making any progress.

This is shown further by Vanderveldt's response to the situation, which is to start the training algorithm over. Vanderveldt does not disclose or suggest migrating the training algorithm to another computer, but rather teaches starting the algorithm over by "reset[ting] the adaptive learing rate to its default initial value. (Col. 6, lines 19-23)

By contrast, the present invention requires performing completely different steps in response to determining that the computer system is overloaded due to tasks being executed by the computer system and causing degradation in performance of processing at least one task, namely, claim 13 recites querying at least one other computer system to determine whether the at least one other computer system can complete a data mining processing task being performed on the computer system faster than the computer system. Vanderveldt discloses that "[t]he database query scripts direct the simple searching and querying of the databases, access custom data-mining solutions developed for some of the databases, and allow visualization for exploration of the databases" (col. 10, lines 16-19). This includes no disclosure or suggestion of any querying related to the speed at which any computer system can perform any particular task. In particular, the disclosure of the use of database query scripts teaches nothing about the speed at which any computer system can

perform any particular task; the disclosure of the simple searching and querying of the databases teaches nothing about the speed at which any computer system can perform any particular task; the disclosure of access[ing] custom data-mining solutions developed for some of the databases teaches nothing about the speed at which any computer system can perform any particular task; the disclosure of allow[ing] visualization for exploration of the databases teaches nothing about the speed at which any computer system can perform any particular task. This disclosure merely is a general disclosure querying of databases to obtain data and perform data mining. Thus, Vanderveldt does not disclose or suggest querying at least one other computer system to determine whether the at least one other computer system can complete a data mining processing task being performed on the computer system faster than the computer system.

Claim 13 recites determining whether the at least one other computer system can complete the data mining processing task being performed on the computer system faster than the computer system. Vanderveldt discloses that "data-mining 'tools' are discrete and specific. Certain models are appropriate for certain tasks. When explanation of a particular result is important (as in credit approval/rejections), and the available data supports the generation/formulation of rules, an expert or fuzzy logic system might be appropriate. When optimization of a particular quantity is important, a genetic algorithm or another evolutionary algorithm might be more useful. When prediction/estimation is important, the neural network training algorithm might be used." (col. 4, lines 28-38) This is just a general description of the selection of particular data mining tools. None of this disclosure teaches

anything about determining whether another computer system can perform a data mining task faster than the computer system.

Claim 13 recites that if the at least one other computer system can complete the data mining processing task faster than the computer system, migrating the processing from the computer system to the at least one other computer system. Vanderveldt does not disclose or suggest migrating processing from one computer system to another.

Thus, the present invention requires detecting a different condition than the condition detected by Vanderveldt and the present invention requires responding to the detected condition with steps that are not disclosed or suggested at all by Vanderveldt.

Thus, the present invention, according to claim 13, and according to claims 43, 73, and 103, which are similar to claim 13, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 14-19, 21, 44-49, 51, 74-79, 81, 104-109, and 111, which depend from claims 13, 43, 73, and 103, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 14, 44, 74, and 104 is not anticipated by Vanderveldt for at least the following additional reasons:

Claim 14 recites reserving the at least one other computer system for migration. Vanderveldt discloses that topics of interest are output to a search tool. This is simply a particular type of data being output from one program to another. This provides no disclosure or suggestion of migrating a data mining process from one computer system to

another. Likewise, it does not suggest reserving a computer system for migration. Vanderveldt does not disclose or suggest reserving a computer system for migration.

Claim 14 recites interrupting and checkpointing the data mining processing task on the computer system. Vanderveldt discloses that there are a variety of data mining algorithms and some may be more useful than others for some applications. This provides no disclosure related to interruption or checkpointing of tasks. Vanderveldt does not disclose or suggest interrupting and checkpointing a data mining processing task.

Claim 14 recites enqueueing a request to the at least one other computer system for continued processing of the data mining processing task. Vanderveldt does not disclose or suggest a request queue including requests for data mining processing, nor does Vanderveldt disclose enqueueing such requests on any computer systems. Rather, Vanderveldt only discloses the entry of search-specific profiles that are processed sequentially. No queuing of such profiles is disclosed or suggested.

Thus, the present invention, according to claim 14, and according to claims 44, 74, and 104, which are similar to claim 14, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 15-19, 21, 45-49, 51, 75-79, 81, and 105-109, 111, which depend from claims 14, 44, 74, and 104, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 15, 45, 75, and 105 is not anticipated by Vanderveldt for at least the following additional reasons:

Claim 15 recites determining that the computer system is overloaded if a utilization of a processor of the computer system is greater than a predefined threshold for a predefined time. Vanderveldt discloses a threshold used to determine whether a search has completed and results should be returned. This provides no disclosure or suggestion of using processor utilization to determine whether a computer system is overloaded. Vanderveldt does not disclose or suggest determining that the computer system is overloaded if a utilization of a processor of the computer system is greater than a predefined threshold for a predefined time.

Thus, the present invention, according to claim 15, and according to claims 45, 75, and 105, which are similar to claim 15, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 16-19, 21, 46-49, 51, 76-79, 81, and 106-109, 111, which depend from claims 15, 45, 75, and 105, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 16, 46, 76, and 106 is not anticipated by Vanderveldt for at least the following additional reasons:

Claim 16 recites generating an estimate of a time to complete the data mining processing task. Vanderveldt does not disclose or suggest this recited step. Rather, Vanderveldt discloses that "as use grows a search response-time per user can be estimated (and a scalability strategy developed). This will enable projection of the number of servers necessary per user. Estimates may be arrived from data provided by similar web service companies." Thus, Vanderveldt discloses estimating a search

response-time per user, rather than the requirement of estimating the time needed to complete a data mining processing task. User response time and individual tasks completion time are different. Vanderveldt does not disclose or suggest the recited generating an estimate of a time to complete the data mining processing task.

Thus, the present invention, according to claim 16, and according to claims 46, 76, and 106, which are similar to claim 16, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 17-19, 21, 47-49, 51, 77-79, 81, and 107-109, 111, which depend from claims 16, 46, 76, and 106, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 17, 47, 77, and 107 is not anticipated by Vanderveldt for at least the following additional reasons:

Claim 17 recites estimating an amount of processing that must be performed to complete the data mining processing task. Vanderveldt does not disclose or suggest this recited step. Rather, Vanderveldt discloses that data sites are evaluated to determine if relevant information is present and estimating a search response-time per user. Both of these are different than estimating processing needed to complete a data mining task. Vanderveldt does not disclose or suggest the recited estimating an amount of processing that must be performed to complete the data mining processing task.

Claim 17 recites estimating a processor utilization that will be available to process the data mining processing task. Vanderveldt does not disclose or suggest this recited step. Rather, Vanderveldt discloses that optimizing particular quantities and that some

algorithms may be more useful than others. Both of these are different than estimating available processor utilization. Vanderveldt does not disclose or suggest the recited estimating a processor utilization that will be available to process the data mining processing task.

Claim 17 recites estimating a time to complete the data mining processing task based on the estimate of the amount of processing that must be performed, the estimate of available processor utilization, and a speed of the processor. Vanderveldt does not disclose or suggest this recited step. Rather, Vanderveldt discloses estimating a search response-time per user. This is different than estimating the time needed to complete a data mining task and also provides no disclosure of suggestion of basing the estimate on the amount of processing, processor utilization, and speed of the processor. Vanderveldt does not disclose or suggest the recited estimating a time to complete the data mining processing task based on the estimate of the amount of processing that must be performed, the estimate of available processor utilization, and a speed of the processor.

Thus, the present invention, according to claim 17, and according to claims 47, 77, and 107, which are similar to claim 17, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 18-19, 21, 48-49, 51, 78-79, 81, and 108-109, 111, which depend from claims 17, 47, 77, and 107, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 23, 53, 83, and 113 is not anticipated by Vanderveldt.

Claim 23 recites determining that determining that a processing load in the computer system is high relative to at least one other computer system, the processing load based on a processor utilization of the computer system due to tasks being executed by the computer system. Vanderveldt discloses that "data-mining 'tools' are discrete and specific. Certain models are appropriate for certain tasks. When explanation of a particular result is important (as in credit approval/rejections), and the available data supports the generation/formulation of rules, an expert or fuzzy logic system might be appropriate. When optimization of a particular quantity is important, a genetic algorithm or another evolutionary algorithm might be more useful. When prediction/estimation is important, the neural network training algorithm might be used." (col. 4, lines 28-38) This is just a general description of the selection of particular data mining tools. None of this disclosure teaches anything about determining processing load on any computer systems or comparing processing load among computer systems. Vanderveldt does not disclose or suggest this recited step.

Claim 23 recites determining a remaining cost of completing processing of a data mining processing task being processed by the computer system. Vanderveldt does not disclose or suggest anything about determining the cost of completing processing. Rather, Vanderveldt discloses using particular data mining algorithms to obtain particular results and gives some examples. This provides no disclosure or suggestion of determining a cost or remaining cost of completing a data mining task.

Claim 23 recites determining whether the at least one other computer system can complete processing of the data mining processing task at a lower cost than the computer

system. Vanderveldt does not disclose or suggest this recited step. Rather, Vanderveldt discloses using particular data mining algorithms to obtain particular results and gives some examples. This provides no disclosure or suggestion of determining whether a computer system can complete processing at a lower cost than another computer system.

Claim 23 recites the step of: if the at least one other computer system can complete processing of the data mining processing task at a lower cost than the computer system, migrating processing of the data mining processing task to the at least one computer system. Vanderveldt does not disclose or suggest migrating processing from one computer system to another.

Thus, the present invention, according to claim 23, and according to claims 53, 83 and 113, which are similar to claim 23, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 24-30, 54-60 84-90, and 114-120, which depend from claims 23, 53, 83, and 113, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 24, 54, 84, and 114 is not anticipated by Vanderveldt for at least the following additional reasons:

Claim 24 recites determining a processor utilization of the computer system and determining a processor utilization of the at least one other computer system. Vanderveldt does not disclose or suggest determining a processor utilization of a computer system. Vanderveldt discloses determining topics that would be of interest to a user. This provides no disclosure or suggestion of determining a processor utilization of a computer system.

Claim 24 recites determining that the processor utilization of the computer system is greater than a predefined amount higher than the processor utilization of the at least one other computer system. Vanderveldt does not disclose or suggest this recited step. Vanderveldt discloses determining topics that would be of interest to a user. This provides no disclosure or suggestion of determining that the processor utilization of the computer system is greater than a predefined amount higher than the processor utilization of the at least one other computer system.

Thus, the present invention, according to claim 24, and according to claims 54, 84 and 114, which are similar to claim 24, is not anticipated by Vanderveldt. Likewise, the present invention, according to claims 25-30, 55-60 85-90, and 115-120, which depend from claims 24, 54, 84, and 114, respectively, is not anticipated by Vanderveldt.

The Applicant respectfully submits that the present invention according to claims 20, 22, 50, 52, 80, 82, 110, and 112 are not obvious in view of Vanderveldt. Even if Vanderveldt were modified as suggested by the Examiner, the result still would not be the present invention as claimed. Thus, the modifications do not cure the deficiencies of Vanderveldt with respect to the above-discussed claims.

In addition, the present invention, for example, according to claim 20, requires adding an estimate of a time to migrate the data mining processing task to the at least one other computer system and the estimate of the time to complete the data mining processing task for the at least one other computer system. Vanderveldt does not disclose or suggest the concept of migrating a task from one computer system to another. Vanderveldt does disclose that "[i]Initially, only one system must be configured.

However, as use grows a search response-time per user can be estimated (and a scalability strategy developed). This will enable projection of the number of servers necessary per user. Estimates may be arrived from data provided by similar web service companies." This disclosure does not teach or suggest migrating tasks from one computer to another, and in particular does not teach or suggest estimating a time to migrate a task. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP 2143.03. Vanderveldt clearly does not teach or suggest the suggest migrating tasks from one computer to another or estimating a time to migrate a task.

Thus, the present invention, according to claim 20, and according to claims 22, 50, 52, 80, 82, 110, and 112, which are similar to claim 20, are not obvious in view of Vanderveldt.

Each of the claims now pending in this application is believed to be in condition for allowance. Accordingly, favorable reconsideration of this case and early issuance of the Notice of Allowance are respectfully requested.

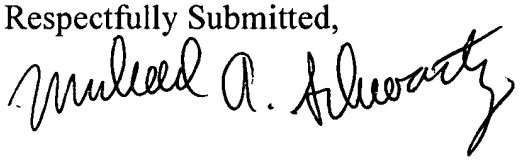
Additional Fees:

The Commissioner is hereby authorized to charge any insufficient fees or credit any overpayment associated with this application to Deposit Account No. 19-5127 (19111.0024).

Conclusion

In view of the foregoing, all of the Examiner's rejections to the claims are believed to be overcome. The Applicants respectfully request reconsideration and issuance of a Notice of Allowance for all the claims remaining in the application. Should the Examiner feel further communication would facilitate prosecution, he is urged to call the undersigned at the phone number provided below.

Respectfully Submitted,



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FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT ($) 880

Complete if Known	
Application Number	09/917,763
Filing Date	July 31, 2001
First Named Inventor	Mark Hornick
Examiner Name	Jean B.Fleurantin
Art Unit	2172
Attorney Docket No.	19111.0024

METHOD OF PAYMENT *(check all that apply)*

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 19-5127

Deposit Account Name: Swidler Berlin Shereff Friedman,LLP

The Director is authorized to: *(check all that apply)*
☒ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) during the pendency of this application
☐ Charge fee(s) indicated below, **except for the filing fee** to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1001	770	2001	385	Utility filing fee	
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filling fee	

SUBTOTAL (1) ($) 0

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

			Extra Claims		Fee from below		Fee Paid
Total Claims		- ** =	0	X		=	0
Independent Claims		- ** =	0	X		=	0
Multiple Dependent				X		=	0

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) ($) 0

**or number previously paid, if greater; For Reissues, see above*

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Fee Code	Large Entity Fee ($)	Small Entity Fee Code	Small Entity Fee ($)	Fee Description	Fee Paid
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet.	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	110
1252	420	2252	210	Extension for reply within second month	
1253	950	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	290	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive – unavoidable	
1453	1,330	2453	665	Petition to revive – unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	770
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) ____

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) ($) 880

SUBMITTED BY				Complete *(if applicable)*	
Name (Print/Type)	Michael A. Schwartz	*Registration No. (Attorney/Agent)*	40,161	*Telephone*	202/424-7500
Signature	Michael A. Schwartz			*Date*	May 4, 2004

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